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EXAMINER	
KERZHNER, ALEKSANDR	
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2162	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,832	HEUER ET AL.	
	Examiner	Art Unit	
	ALEKSANDR KERZHNER	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 November 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/03/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 15-28 are pending and have been examined.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/22/2008 has been entered.

Priority

3. As required bye M.P.E.P. 201.14(c), acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Claim for priority is acknowledged to be based on applications filed on 07/15/2002 (Germany 102 31 971.5) and 10/18/2002 (Germany 102 48 758.8).

Information Disclosure Statement

4. As required by M.P.E.P. 609(C), the applicant's submissions of the Information Disclosure Statement dated 06/03/2008 is acknowledged by the examiner and the cited reference has been considered in the examination of the claims now pending. As

required by M.P.E.P 609 C(2), a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

Claim Objections

5. Regarding **claims 27**, claim recites the limitation “decoder unit, adapted to” is indirect, suggest optionally, and passive which renders any recitation claimed after not be given patentable weight. Appropriate correction is required.

The Examiner points to MPEP 2106 II.C. wherein the claim’s recitation of "adapted to" raises the question to Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

Office personnel must rely on the applicant’s disclosure to properly determine the meaning of the claims. Limitations appearing in the specification but not recited in the claim are not read into the claim; therefore, in this case, the recitation of "adapted to" as interpreted in light of the specification provide the "functionality" or "the capability" of the device/system to perform the steps without definite disclosure limiting or excluding any alternative, negative, or even all together suggest actually performing or implementing the functionality that is database management system is capable of.

Therefore, any cited art that teaches the steps otherwise in the alternative can be used to reject the instant application. The computer being adapted to perform a function does not mean that it will ever actually perform that functionality (i.e. "adapted to" should be clarified and changed to a more definite term).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 15 and 20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15 and 20 recite the limitation "the associated normalized XML schema" in line 23 of each claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claims 25-28** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 25-28, claims recite the use of various components and elements that would be reasonably understood by one of ordinary skill in the art to mean software, a software based component implementation, or an abstract concept based on software. Examples of components and concepts used in the claim are: "an

encoder," and "a decoder unit," and other such terms that are interpreted to mean abstract concepts and software implementation.

There are no definitive hardware or physical components associated with these examples in the claims or in the specification.

Thus, the claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 15, 19-20, 24-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Seyrat et al., FR 2 813 743 (Hereinafter "Seyrat et al.") in view of Seyrat et al., "Text of ISO/EIC FCD 15938-1 Information Technology - Multimedia Content Description Interface - Part 1 Systems" (Hereinafter "ISO").

Regarding **claim 15**, as well as understood, Seyrat et al. shows:

A method for encoding and transmitting an Extensible Markup Language (XML) document, wherein an XML schema is associated with the XML document, the method comprising:

a) generating a normalized XML schema (*normalizing XML schema, see e.g., page 3, lines 6-8, Fig 1*)

b) encoding the normalized XML schema to an encoded XML schema using a metaschema; (*compiling the normalized structure schema using metaschema, see e.g., page 3, lines 10-13*)

c) transmitting the encoded XML schema in a first bit stream; (*transmitting an encoded XML schema, see e.g., page 4, lines 25-28*)

d) generating an encoded XML document by encoding the XML document to an encoded XML document using the associated normalized XML schema; (*compressing the structured document using schema, see e.g., page 3, lines 15-19*) and

e) transmitting the encoded XML document in a second bit stream, wherein the first and second bit streams are provided for reception for a decoder. (*transmitting the encoded XML document, possible to transmit without schema, see e.g., page 3, line 34 – page 4, line 3*)

Seyrat et al. does not expressly disclose the normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping;

simplifying a choice group containing an element with an attribute value minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice group is dissolved and contents of the further choice group are incorporated directly into the choice group;

Seyrat et al. also does not expressly disclose that encoding and generating is done "using the BiM method"

However, ISO teaches:

The normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping; (*See e.g., page 37, Syntax Tree Transformation - Group simplification rule, which clearly shows and describes identical procedure as claimed*)

simplifying a choice group containing an element with an attribute value. minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; *See e.g., page 37, Syntax Tree Transformation – Empty choice simplification, which clearly shows and describes identical procedure as claimed*) and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice group is dissolved and contents of the further choice group are incorporated directly into the choice group; (*See e.g., page 37-38, Syntax Tree Transformation – Choice Simplification rule, which clearly shows and describes identical procedure as claimed*)

encoding and generating is done "using the BiM method" (*page 26-28, wherein BiM specification is disclosed*)

Seyrat et al. teaches a general way of leveling the tree of schema in order to reduce and simplify it. ISO teaches a non-destructive way to normalize XML schema in order to improve compactness. Thus, it would have been obvious to one of ordinary skill in the art to apply the normalization technique as taught by ISO, to improve the normalization method of Seyrat et al. for the predicable result of achieving a more compact schema that in turn is quicker to transmit.

Regarding **claim 19**, Seyrat et al. in view of ISO shows:

Information for at least one of an inheritance tree of types, global elements and substitution groups is encoded, and wherein at least one of (i) each type is described by both an item of information about a respective type code with reference to a master type and a length of all type codes which refer to the type described, (ii) each global element is described by both a length of a respective schema branch code (SBC) and the respective SBC, and (iii) each element in a substitution group is described by both a length of a respective substitution code and the respective substitution code. (Seyrat et al.: encoding element with length, see e.g., page 15, line 33 – page 16, line 1; *ISO: encoding using Schema Branch Codes, see e.g., page 23: 7.3.1.2 Navigation Path, page 26, 7.3.1.4 Extension and forward/backward compatibility of navigation paths, encoding length information, see e.g., page 28, Rule 4*)

Regarding **claim 20**, as well as understood, Seyrat et al. shows:

A method for encoding, transmitting and decoding an Extensible Markup Language (XML) document, wherein an XML schema is associated with the XML document, the method comprising:

a) generating a normalized XML schema (*normalizing XML schema, see e.g., page 3, lines 6-8, Fig 1*)

b) encoding the normalized XML schema to an encoded XML schema using a metaschema; (*compiling the normalized structure schema using metaschema, see e.g., page 3, lines 10-13*)

c) transmitting the encoded XML schema in a first bit stream; (*transmitting an encoded XML schema, see e.g., page 4, lines 25-28*)

d) generating an encoded XML document by encoding the XML document to an encoded XML document using the associated normalized XML schema; (*compressing the structured document using schema, see e.g., page 3, lines 15-19*) and

e) transmitting the encoded XML document in a second bit stream, wherein the first and second bit streams are provided for reception for a decoder; (*transmitting the encoded XML document, possible to transmit without schema, see e.g., page 3, line 34 – page 4, line 3*)

f) decoding the encoded XML schema transmitted in the first bit stream into the normalized XML schema by using the metaschema, wherein the normalized schema and the metaschema correspond to the schemas used in the encoding; (*decoding the encoded XML schema using techniques and metaschema corresponding to the once used during encoding, see e.g., page 4, lines 15-28*) and

g) decoding the encoded XML document transmitted in the second bit stream by using the normalized XML schema, without performing a further normalization of the normalized XML schema. (*decoding the encoded XML document using schema, see e.g., page 18, lines 33-41*)

Seyrat et al. does not expressly disclose the normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping;

simplifying a choice group containing an element with an attribute value minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice group is dissolved and contents of the further choice group are incorporated directly into the choice group;

Seyrat et al. also does not expressly disclose that encoding and generating is done “using the BiM method”

However, ISO teaches:

The normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping; (*See e.g., page 37, Syntax Tree Transformation - Group simplification rule, which clearly shows and describes identical procedure as claimed*)

simplifying a choice group containing an element with an attribute value. minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; *See e.g., page 37, Syntax Tree Transformation – Empty choice simplification, which clearly shows and describes identical procedure as claimed*) and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice group is dissolved and contents of the further choice group are incorporated directly into the choice group; (*See e.g., page 37-38, Syntax Tree Transformation – Choice Simplification rule, which clearly shows and describes identical procedure as claimed*)

encoding and generating is done “using the BiM method” (*page 26-28, wherein BiM specification is disclosed*)

Seyrat et al. teaches a general way of leveling the tree of schema in order to reduce and simplify it. ISO teaches a non-destructive way to normalize XML schema in order to improve compactness. Thus, it would have been obvious to one of ordinary

skill in the art to apply the normalization technique as taught by ISO, to improve the normalization method of Seyrat et al. for the predicable result of achieving a more compact schema that in turn is quicker to transmit.

Regarding **claim 24**, Seyrat et al. in view of ISO shows:

Information for at least one of an inheritance tree of types, global elements and substitution groups is first decoded, and wherein at least one of (i) each type is described by both an item of information about a respective type code with reference to a master type and a length of all type codes which refer to the type described, (ii) each global element is described by both a length of a respective schema branch code (SBC) and the respective SBC, and (iii) each element in a substitution group is described by both a length of a respective substitution code and the respective substitution code. (Seyrat et al.: decoding encoded element with length, see e.g., page 15, line 33 – page 16, line 1; *ISO: use of Schema Branch Codes, see e.g., page 23: 7.3.1.2 Navigation Path, page 26, 7.3.1.4 Extension and forward/backward compatibility of navigation paths, coding of length information, see e.g., page 28, Rule 4*)

Regarding **claim 25**, Seyrat et al. shows:

A device for encoding an Extensible Markup Language (XML) document, wherein an XML schema is associated with the XML document, comprising:

an encoder (*Fig 1#16*), configured to

a) generate a normalized XML schema (*normalizing XML schema, see e.g., page 3, lines 6-8, Fig 1*)

b) encode the normalized XML schema to an encoded XML schema using a metaschema, (*compiling the normalized structure schema using metaschema, see e.g., page 3, lines 10-13*) wherein the encoded XML schema is to be transmitted in a first bit stream; (*transmitting an encoded XML schema, see e.g., page 4, lines 25-28*) and

c) generate an encoded XML document by encoding the XML document using the normalized XML schema, (*compressing the structured document using schema, see e.g., page 3, lines 15-19*) wherein the encoded XML document is to be transmitted in a second bit stream, with the first and second bit streams being provided for reception for a decoder (*transmitting the encoded XML document, possible to transmit without schema, see e.g., page 3, line 34 – page 4, line 3*)

Seyrat et al. does not expressly disclose the normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping;

simplifying a choice group containing an element with an attribute value minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice

group is dissolved and contents of the further choice group are incorporated directly into the choice group;

Seyrat et al. also does not expressly disclose that encoding is done "using the BiM method"

However, ISO teaches:

The normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping; (*See e.g., page 37, Syntax Tree Transformation - Group simplification rule, which clearly shows and describes identical procedure as claimed*)

simplifying a choice group containing an element with an attribute value. minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; *See e.g., page 37, Syntax Tree Transformation – Empty choice simplification, which clearly shows and describes identical procedure as claimed*) and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice group is dissolved and contents of the further choice group are incorporated directly into

the choice group; (*See e.g., page 37-38, Syntax Tree Transformation – Choice Simplification rule, which clearly shows and describes identical procedure as claimed*)

encoding is done "using the BiM method" *(page 26-28, wherein BiM specification is disclosed)*

Seyrat et al. teaches a general way of leveling the tree of schema in order to reduce and simplify it. ISO teaches a non-destructive way to normalize XML schema in order to improve compactness. Thus, it would have been obvious to one of ordinary skill in the art to apply the normalization technique as taught by ISO, to improve the normalization method of Seyrat et al. for the predicable result of achieving a more compact schema that in turn is quicker to transmit.

Regarding **claim 26**, Seyrat et al. in view of ISO shows:

The encoder unit covers a configurable byte code interpreter which interprets information in a byte code and which, depending on a configuration, produces a code from the structured document based on a byte code which represents one of a path and a payload. (*Seyrat: See page 11, lines 1-9, where MPEG-7 content may be delivered independently or together with the content they describe; page 47: 8.4.6.12 Consumption, where user is presented with content*)

Regarding **claim 27**, Seyrat et al. shows:

A system for encoding and decoding an Extensible Markup Language (XML) document comprising:

an encoder unit (*Fig 1#16*) configured to:

a) generate a normalized XML schema associated with the XML document (*normalizing XML schema, see e.g., page 3, lines 6-8, Fig 1*)

b) encode the normalized XML schema to an encoded XML schema using a metaschema, (*compiling the normalized structure schema using metaschema, see e.g., page 3, lines 10-13*) wherein the encoded XML schema is to be transmitted in a first bit stream; (*transmitting an encoded XML schema, see e.g., page 4, lines 25-28*) and

c) generate and encoded XML document by encoding the XML document using the normalized XML schema, (*compressing the structured document using schema, see e.g., page 3, lines 15-19*) wherein the encoded XML document is to be transmitted in a second bit stream, with the first and second bit streams being provided for reception for a decoder (*transmitting the encoded XML document, possible to transmit without schema, see e.g., page 3, line 34 – page 4, line 3*); and

a decoder unit (*Fig 1#16'*), adapted to:

f) decode the encoded XML schema transmitted in the first bit stream into the normalized XML schema by using the metaschema, wherein the normalized schema and the metaschema correspond to the schemas used in the encoding; (*decoding the encoded XML schema using techniques and metaschema corresponding to the once used during encoding, see e.g., page 4, lines 15-28*) and

g) decode the encoded XML document transmitted in the second bit stream by using the normalized XML schema, without performing a further normalization of the normalized XML schema. (*decoding the encoded XML document using schema, see e.g., page 18, lines 33-41*)

Seyrat et al. does not expressly disclose the normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping;

simplifying a choice group containing an element with an attribute value minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice group is dissolved and contents of the further choice group are incorporated directly into the choice group;

Seyrat et al. also does not expressly disclose that encoding is done “using the BiM method”

However, ISO teaches:

The normalization of the XML schema comprising one of:

simplifying a group which contains only one element, the group being dissolved and the one element being put into a content model at a level of the dissolved group, with attributes minOccurs and maxOccurs of the element being replaced by a product of corresponding attributes of the dissolved group and the one element prior to regrouping;

(*See e.g., page 37, Syntax Tree Transformation - Group simplification rule, which clearly shows and describes identical procedure as claimed*)

simplifying a choice group containing an element with an attribute value. minOccurs = O, the attribute minOccurs of the choice group being set to 0 irrespective of a previous value, with the element having the attribute value minOccurs = 0 being assigned an attribute value minOccurs = 1; *See e.g., page 37, Syntax Tree Transformation – Empty choice simplification, which clearly shows and describes identical procedure as claimed*) and

simplifying nested choice groups, wherein if a choice group contains a further choice group containing attribute values minOccurs = maxOccurs = 1, the further choice group is dissolved and contents of the further choice group are incorporated directly into the choice group; (*See e.g., page 37-38, Syntax Tree Transformation – Choice Simplification rule, which clearly shows and describes identical procedure as claimed*)

encoding is done “using the BiM method” *(page 26-28, wherein BiM specification is disclosed)*

Seyrat et al. teaches a general way of leveling the tree of schema in order to reduce and simplify it. ISO teaches a non-destructive way to normalize XML schema in order to improve compactness. Thus, it would have been obvious to one of ordinary skill in the art to apply the normalization technique as taught by ISO, to improve the normalization method of Seyrat et al. for the predicable result of achieving a more compact schema that in turn is quicker to transmit.

Regarding **claim 28**, as well as understood, Seyrat et al. in view of ISO shows:

The decoder unit covers a configurable byte code interpreter which is configurable via information from the byte stream and which, depending on a configuration, produces at least one of a path, a payload and a byte code from the byte stream based on a byte code. (*Seyrat: See page 11, lines 1-9, where MPEG-7 content may be delivered independently or together with the content they describe; page 47: 8.4.6.12 Consumption, where user is presented with content*)

9. **Claims 16 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Seyrat et al. in view of ISO as applied to claims 15 and 20 above, and further in view of C. M. Sperberg-McQueen, "Canonical XML forms for post-schema-validation infosets: A preliminary reconnaissance" (Herein after "Sperberg-McQueen").

Regarding **claim 16**, Seyrat et al. in view of ISO teaches all the claimed limitations as put forth in the rejections of claim 15 above, except it does not expressly disclose:

Restructuring at least one of element declarations and attributes declarations of a schema definition of a structured document such that anonymous type definitions are taken out of the respective at least one of element declarations and attribute declarations and are given at least one of a name and a code which is used for referencing purposes for the corresponding element.

However, Sperberg-McQueen teaches:

Restructuring at least one of element declarations and attributes declarations of a schema definition of a structured document such that anonymous type definitions are taken out of the respective at least one of element declarations and attribute

declarations and are given at least one of a name and a code which is used for referencing purposes for the corresponding element. (*A technique for restructuring XML, naming an anonymous type, taking elements out of declaration and naming them with code names such as "_ct_anon01," see e.g., Page 4, 2.2 Names of types, lines 5-31, Page 8: 3.1 Dump format based on existing transfer syntax – page 9, line 27*)

Seyrat et al. in view of ISO teaches normalizing a structured document. Sperberg-McQueen teaches a non-destructive way to restructure an XML document in order to transform anonymous types into named types. The advantages and disadvantages of using an anonymous versus a named type are well known in the art of structured documents. For instance while anonymous types can be more readable, named types have many advantages such as ability to reuse, reduced possibility of error, and taking up less space if reused more then once. A smaller schema is easier to transmit and faster to encode and decode. Thus, it would have been obvious to one of ordinary skill in the art to apply the transformation technique as taught by Sperberg-McQueen, to improve the encoding, decoding and transition steps of method taught by Seyrat et al. in view of ISO, for the predicable result of achieving a schema that is sometimes easier to encode, decode and transmit.

Regarding **claim 21**, Seyrat et al. in view of ISO teaches all the claimed limitations as put forth in the rejections of claim 20 above, except it does not expressly disclose:

Restructuring at least one of element declarations and attribute declarations of a structured document such that anonymous types, to each of which at least one of a

name and a code has been assigned for purposes of transmission, are inserted in the respective at least one of element declarations and attribute declarations by which the respective anonymous type is referenced.

However, Sperberg-McQueen teaches:

Restructuring at least one of element declarations and attribute declarations of a structured document such that anonymous types, to each of which at least one of a name and a code has been assigned for purposes of transmission, are inserted in the respective at least one of element declarations and attribute declarations by which the respective anonymous type is referenced. (*An easily reversible technique for restructuring XML, naming an anonymous type, taking elements out of declaration and naming them with code names such as "_ct_anon01," see e.g., Page 4, 2.2 Names of types, lines 5-31, Page 8: 3.1 Dump format based on existing transfer syntax – page 9, line 27*)

Seyrat et al. in view of ISO teaches normalizing a structured document. Sperberg-McQueen teaches a non-destructive way to restructure an XML document in order to transform anonymous types into named types. The advantages and disadvantages of using an anonymous versus a named type are well known in the art of structured documents. For instance while anonymous types can be more readable, named types have many advantages such as ability to reuse, reduced possibility of error, and taking up less space if reused more then once. A smaller schema is easier to transmit and faster to encode and decode. Thus, it would have been obvious to one of ordinary skill in the art to apply the transformation technique as taught by Sperberg-

McQueen, to improve the encoding, decoding and transition steps of method taught by Seyrat et al. in view of ISO, for the predicable result of achieving a schema that is sometimes easier to encode, decode and transmit.

10. **Claims 17-18 and 22-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Seyrat et al. in view of ISO as applied to claims 15 and 20 above, and further in view of Girardot et al., "Millau: an encoding format for efficient representation and exchage of XML over the Web" (Herein after " Girardot et al.").

Regarding **claim 17**, Seyrat et al. in view of ISO teaches all the claimed limitations as put forth in the rejections of claims 15 above, except it does not expressly disclose:

In place of at least one of type names, element names and names of substitution groups, only numbers and at least one table containing an allocation between numbers and the respective at least one of type names, element names and names of substitution groups are encoded.

However, Giradot et al. teaches:

In place of at least one of type names, element names and names of substitution groups (*encoding types, attributes, and other structures see e.g., page 750 left-hand side, paragraph 1*), only numbers and at least one table containing an allocation between numbers and the respective at least one of type names (*use of tokens that are numbers see e.g., page 750 left-hand side, paragraph 1, table 1*), element names and names of substitution groups are encoded. (*page 750 left-hand side, paragraph 1 – page 751 right-hand side paragraph 2, tables 1 and 2*)

Seyrat et al. in view of ISO teaches normalizing a structured document and then transmitting it and decoding it. Giradot et al. teaches a way to compress an XML document in order to encode not only data but also types and attributes using only numbers and a look up table. The advantage of doing so is to compress XML document more efficiently then traditional data compression algorithms while retraining the structural information in the data they exchange. (*See Girardot et al., page 747 – 748: 1. Introduction*). Thus, it would have been obvious to one of ordinary skill in the art to apply the compression technique as taught by Giradot et al., to improve the encoding, decoding and transition steps of method taught by Seyrat et al. in view of ISO, for the predicable result of achieving a more compressed schema that retains structural characteristics that is faster to transmit.

Regarding **claim 18**, Seyrat et al. in view of ISO teaches all the claimed limitations as put forth in the rejections of claims 15 above, except it does not expressly disclose:

At least one list comprising at least one of types names, element names, and names of substitution groups, as well as positions of the respective type names, element names and names of substitution groups in the list, are encoded in place of the respective type names, element names and names of substitution groups.

However, Giradot et al. teaches:

At least one list comprising at least one of types names, element names, and names of substitution groups, as well as positions of the respective type names, element names and names of substitution groups in the list, are encoded in place of the

respective type names, element names and names of substitution groups. (*page 750 left-hand side, paragraph 1 – page 751 right-hand side paragraph 2, tables 1 and 2, where "table" is read on" list")*

Seyrat et al. in view of ISO teaches normalizing a structured document and then transmitting it and decoding it. Giradot et al. teaches a way to compress an XML document in order to encode not only data but also types and attributes using only numbers and a look up table. The advantage of doing so is to compress XML document more efficiently then traditional data compression algorithms while retraining the structural information in the data they exchange. (*See Girardot et al., page 747 – 748: 1. Introduction*). Thus, it would have been obvious to one of ordinary skill in the art to apply the compression technique as taught by Giradot et al., to improve the encoding, decoding and transition steps of method taught by Seyrat et al. in view of ISO, for the predicable result of achieving a more compressed schema that retains structural characteristics that is faster to transmit.

Regarding **claim 22**, Seyrat et al. in view of ISO teaches all the claimed limitations as put forth in the rejections of claims 20 above, except it does not expressly disclose:

At least one of type names, element names and names of substitution groups are decoded via numbers and at least one table containing an allocation between numbers and the respective at least one of type names, element names and names of substitution groups.

However, Giradot et al. teaches:

At least one of type names, element names and names of substitution groups are decoded (see page 747: 1. Introduction) via numbers and at least one table containing an allocation between numbers and the respective at least one of type names, element names and names of substitution groups. (*page 750 left-hand side, paragraph 1 – page 751 right-hand side paragraph 2, tables 1 and 2*)

Seyrat et al. in view of ISO teaches normalizing a structured document and then transmitting it and decoding it. Giradot et al. teaches a way to compress an XML document in order to encode not only data but also types and attributes using only numbers and a look up table. The advantage of doing so is to compress XML document more efficiently then traditional data compression algorithms while retraining the structural information in the data they exchange. (*See Girardot et al., page 747 – 748: 1. Introduction*). Thus, it would have been obvious to one of ordinary skill in the art to apply the compression technique as taught by Giradot et al., to improve the encoding, decoding and transition steps of method taught by Seyrat et al. in view of ISO, for the predicable result of achieving a more compressed schema that retains structural characteristics that is faster to transmit.

Regarding **claim 23**, Seyrat et al. in view of ISO teaches all the claimed limitations as put forth in the rejections of claims 20 above, except it does not expressly disclose:

At least one of type names, element names and names of substitution groups are decoded via at least one list comprising the respective at least one of type names,

element names and names of substitution groups and positions of the respective at least one of type names, element names and names of substitution groups in the list.

However, Giradot et al. teaches:

At least one of type names, element names and names of substitution groups are decoded (see page 747: 1. Introduction) via at least one list comprising the respective at least one of type names, element names and names of substitution groups and positions of the respective at least one of type names, element names and names of substitution groups in the list. (*page 750 left-hand side, paragraph 1 – page 751 right-hand side paragraph 2, tables 1 and 2, where "table" is read on" list"*)

Seyrat et al. in view of ISO teaches normalizing a structured document and then transmitting it and decoding it. Giradot et al. teaches a way to compress an XML document in order to encode not only data but also types and attributes using only numbers and a look up table. The advantage of doing so is to compress XML document more efficiently then traditional data compression algorithms while retraining the structural information in the data they exchange. (*See Girardot et al., page 747 – 748: 1. Introduction*). Thus, it would have been obvious to one of ordinary skill in the art to apply the compression technique as taught by Giradot et al., to improve the encoding, decoding and transition steps of method taught by Seyrat et al. in view of ISO, for the predicable result of achieving a more compressed schema that retains structural characteristics that is faster to transmit.

Response to Arguments

11. Applicant's arguments, see Amended after Final, filed 04/22/2008 (entered with the Request for Continued Examination) , with respect to objections to the specification and objection to the claims have been fully considered and are persuasive. The objection to specification and objections to the claims of Final Office action dated 01/22/2008 has been withdrawn.

12. Regarding 35 U.S.C. 103 rejections, Applicant argues:

"With reference to page 30 of the final Office Action, the Examiner states that paragraph [0013] of the cited reference anticipates the limitation of "b) encoding the normalized XML schema using a metachema". The portion of the claim has been modified to require "encoding the normalized XML schema to an encoded XML schema using a metachema by the BiM method." This limitation is not disclosed in the reference. Use of the BIM method can be found, for example, in paragraphs 14 and 15 and Fig. 1."

Examiners response:

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Please see rejection of claims above wherein BiM method is shown by the ISO. It is noted that specification as filed, paragraph [0002], admits BiM method for encoding XML data as well known.

Conclusion

The examiner requests, in response to this Office action, support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line no(s) in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.

When responding to this office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEKSANDR KERZHNER whose telephone number is (571)270-1760. The examiner can normally be reached on Mon-Fri 9:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aleksandr Kerzhner/
Examiner, Art Unit 2162
06/05/2008

/Kuen S Lu/
Primary Examiner, Art Unit 2167